

Part

E

Draft Streambed Alteration (Section 1603) Agreement

PUBLIC REVIEW DRAFT

STREAMBED ALTERATION AGREEMENT WITH REGARD TO THE PACIFIC LUMBER COMPANY HABITAT CONSERVATION PLAN

By And Among

THE CALIFORNIA DEPARTMENT OF FISH AND GAME ("CDFG")

and

**THE PACIFIC LUMBER COMPANY,
SCOTIA PACIFIC HOLDING COMPANY, AND
SALMON CREEK CORPORATION (collectively, "PALCO")**

_____, 1999

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<u>Exhibit</u>	<u>Description</u>
A	Covered Activities Subject to California Fish and Game Code Section 1603
B	Specific Covered Activities Under the Streambed Alteration Agreement
C	Measures Necessary for Protection of Fish and Wildlife Resources from Impacts of Specific Covered Activities Covered Under the Streambed Alteration Agreement

PALCO HABITAT CONSERVATION PLAN

STREAMBED ALTERATION AGREEMENT

This STREAMBED ALTERATION AGREEMENT ("Agreement") is entered into as of the Effective Date by and among the CALIFORNIA DEPARTMENT OF FISH AND GAME ("CDFG"), an agency of the State of California, and THE PACIFIC LUMBER COMPANY, SCOTIA PACIFIC HOLDING COMPANY and SALMON CREEK CORPORATION (collectively, "PALCO").

These entities may be referred to collectively as "Parties" and each individually as a "Party."

Recitals and Purposes

- A. PALCO owns approximately 211,000 acres within Humboldt County, California (the "PALCO Lands"). PALCO is in the process of acquiring and is planning to acquire certain additional lands near or adjacent to the PALCO Lands (the "Additional Lands"; the PALCO Lands and Additional Lands are referred to collectively herein as the "Covered Lands"). The Covered Lands fall within several major watersheds in Humboldt County, California. Certain portions of these watersheds form the Plan Area for this Agreement (the "Plan Area"). A map of the Plan Area, showing all the Covered Lands, is attached to the HCP as Volume V, Map 2.
- B. CDFG has jurisdiction over the conservation, protection, restoration, enhancement, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species under State law including but not limited to California Fish and Game Code section 1600 *et seq.*
- C. PALCO desires to use the Covered Lands for certain activities, including all activities relating to timber production and harvesting, gravel mining, road construction and maintenance, grazing, stream enhancement projects, fish rearing operations, and the Operating Conservation Program activities (the "Covered Activities") as particularly described at Volume I, Part A, of PALCO's Habitat Conservation Plan/Sustained Yield Plan (the "HCP"), which was prepared by PALCO and approved by CDFG, USFWS and NMFS, in relation to issuance of incidental take permits by CDFG (the "State Permit") under the California Endangered Species Act, and the United States Fish and Wildlife Service ("USFWS") and the National Marine Fisheries Service ("NMFS") (collectively "Federal Permits") under the federal Endangered Species Act.

- D. The Parties, USFWS, NMFS, and the California Department of Forestry and Fire Protection, have entered into that certain Implementation Agreement dated the Effective Date, which implements the HCP, into which this Streambed Alteration Agreement is incorporated.
- E. The CDFG has determined that certain of the Covered Activities may substantially divert or obstruct the natural flow of or substantially change the bed, channel, or bank of any river, stream, or lake, or use any material from the streambeds on the Covered Lands depending on the location and/or impacts of the Covered Activities. These Covered Activities are listed on Exhibit "A" hereto.
- F. The CDFG has determined that of those Covered Activities listed on Exhibit "A", specific Covered Activities appropriately may be the subject of a five-year Streambed Alteration Agreement. These specific Covered Activities are listed on Exhibit "B" hereto. Those Covered Activities not listed on Exhibit "B" would be addressed under separate notifications and agreements pursuant to the provisions of California Fish and Game Code Section 1603.
- G. The CDFG has determined that specific measures, in addition to those provided pursuant to the HCP, are necessary to protect fish and wildlife resources from possible substantial adverse effects of the specific Covered Activities listed on Exhibit "B" hereto. These specific measures are identified on Exhibit "C" hereto.

Agreement

This Agreement is a Streambed Alteration Agreement by and between CDFG and PALCO pursuant to section 1603 of the California Fish and Game Code. PALCO may lawfully conduct the specific Covered Activities identified on Exhibit "B" that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream or lake, or use any materials from the streambeds on the Covered Lands if the specific applicable measures identified on Exhibit "C" hereto are incorporated into these specific Covered Activities in addition to the conservation and mitigation measures required pursuant to the HCP.

PALCO hereby agrees to incorporate into the Covered Activities identified on Exhibit "B" hereto the specific applicable measures identified on Exhibit "C" hereto in accordance with the following provisions. Where PALCO determines that conformance with any of the applicable measures identified on Exhibit "C" hereto is not feasible, PALCO may propose alternative measures through a separate notification and agreement pursuant to California Fish and Game Code Section 1603.

The Parties agree that the Covered Activities listed on Exhibit "A," other than those listed on Exhibit "B," may require separate notification and agreement pursuant to California Fish and Game Code Section 1603.

1.0 Notification for Authorization to Proceed with Covered Activities

At least 14 calendar days prior to commencing any of the specific Covered Activities identified on Exhibit "B" hereto, PALCO shall notify CDFG in writing of its intent to commence such Covered Activity (the "Notification").

The Notification will enable CDFG to determine whether or not such Covered Activity is subject to this Agreement, and if so, to enable CDFG to ensure that the applicable measures set forth in Exhibit "C" are incorporated into the activity.

1.1 Presumption

CDFG will presume that the Covered Activity of which it was notified pursuant to the foregoing procedures is subject to this Agreement. Therefore, unless CDFG determines and notifies PALCO within 14 days of the date of Notification that the activity is not permitted pursuant to this Agreement, PALCO may commence such activity in accordance with the terms of this Agreement 14 calendar days after notifying CDFG thereof. After such 14-day period has elapsed, CDFG shall be forever barred from contending that such activity violated Fish and Game Code section 1603 so long as PALCO conducts such activity in accordance with the Exhibit "D" measures.

If CDFG determines that the Covered Activity of which it was notified is not subject to this Agreement, PALCO shall not proceed with the Covered Activity except pursuant to a separate agreement under Section 1603 of the California Fish and Game Code, or unless and until the CDFG determines after any dispute resolution pursuant to Section 9.2 of the Implementation Agreement that the Covered Activity is subject to this Agreement.

1.1.1 Effect of Presumption

Notwithstanding the foregoing, this presumption shall not preclude CDFG from taking any appropriate enforcement actions for any violation of the California Fish and Game Code, and any violations of this Agreement, the State Permit, the HCP, and the Implementation Agreement.

1.2 Content of Notification

Notification shall consist of the following:

- (1) A specific and detailed description of the Covered Activity, including work plans;
- (2) The commencement and termination dates;
- (3) A map of the work site with sufficient detail to enable a person who is not familiar with the area to easily locate the site;
- (4) Identification of the applicable set of measures listed on Exhibit "C" hereto that will be applied to the Covered Activity;
- (5) If the activity requires any authorization, permit, or entitlement from any federal, state or local agency, a copy of such authorization, permit, or other entitlement; and
- (6) A fee in the amount of \$161.00 in accordance with Section 5.0 of this Agreement.

2.0 Term of the Agreement and Automatic Renewal

This Agreement shall be valid for a period of five years from the Effective Date, provided the State Permit remains in effect for such period. This Agreement shall renew automatically at the expiration of the term of this Agreement, conditioned upon receipt by CDFG of the renewal fee, which shall be submitted to CDFG at least 5 days prior to the expiration of the term of this Agreement, provided that PALCO remains in compliance with the terms of this Agreement, the State Permit, the HCP, and the Implementation Agreement, and except as provided in Section 2.1 of this Agreement. Each such renewal shall be valid for the maximum period allowable under law at the time of the renewal (which, as of the Effective Date, is five years), provided that the State Permit remains in effect for such period.

2.1 No Automatic Renewal if Determination of Substantial Change in Conditions

Notwithstanding the foregoing paragraph, in accordance with California Fish and Game Code section 1603(g), if the CDFG determines that there has been a substantial change in conditions, the Agreement will not automatically renew. CDFG shall make such determination and shall notify PALCO thereof prior to the expiration of the term of the Agreement. If PALCO objects to CDFG's determination,

the dispute shall be resolved pursuant to the arbitration provisions set forth in section 1603(b) of the California Fish and Game Code.

3.0 Suspension, Revocation, Relinquishment, and Extension of the Agreement, and Full Mitigation Obligation

The suspension, revocation, relinquishment, and extension of this Agreement shall be governed by Sections 8.3, 8.4, 8.5, and 8.6 of the Implementation Agreement.

4.0 Amendment of the Agreement

Amendment of this Agreement shall be governed by Sections 7.2.2 and 10.15 of the Implementation Agreement.

5.0 Fees

Notwithstanding the Section 699.5 of Title 14 of the California Code of Regulations, PALCO shall pay a fee of \$2,400.00 prior to the execution of this Agreement in order to pay the costs of the CDFG in preparing this Agreement. Thereafter, PALCO shall submit with each notification submitted pursuant to this Agreement, a fee of \$161.00 to CDFG in order to pay the costs of the CDFG in administering and enforcing this Agreement.

6.0 Compliance with Other Laws

Nothing in this Agreement shall be construed to authorize the violation of any applicable federal, state, or local laws, including but not limited to California Fish and Game Code Section 5650, the Porter-Cologne Act, and the Forest Practice Rules.

7.0 Remedies, Enforcement, and Dispute Resolution

The remedies, enforcement, and dispute resolution provisions of the Implementation Agreement set forth in Section 9.0 shall apply to this Agreement.

8.0 Miscellaneous

The provisions of the Implementation Agreement set forth in Section 10.0 shall apply to this Agreement.

IN WITNESS WHEREOF, THE PARTIES HERETO have executed this Agreement to be in effect as of the Effective Date.

Dated: _____

THE PACIFIC LUMBER COMPANY

By: _____
John Campbell
President and Chief Executive Officer

Dated: _____

SCOTIA PACIFIC HOLDING COMPANY

By: _____
John Campbell
President and Chief Executive Officer

Dated: _____

SALMON CREEK CORPORATION

By: _____
John Campbell
President and Chief Executive Officer

Dated: _____

CALIFORNIA DEPARTMENT OF FISH AND GAME

By: _____
Jacqueline E. Schafer
Director

APPROVED AS TO FORM:

Dated: _____

GENERAL COUNSEL
California Department of Fish and Game

By: _____
Linus S. Masouredis
General Counsel

EXHIBIT A

Covered Activities Subject to California Fish and Game Code Section 1603

The following Covered Activities may be subject to California Fish and Game Code Section 1603 depending on the location and/or the impacts of such activities:

1. Timber Management Activities, including
 - (a) timber harvest;
 - (b) site preparation;
 - (c) planting;
 - (d) vegetation management;
 - (e) thinning;
 - (f) fertilization;
 - (g) fire suppression.
2. Road Construction, Maintenance and Closure;
3. Near-stream Gravel Mining;
4. Rock Quarrying and Borrow Pit Extraction;
5. Grazing;
6. Stream Enhancement Projects;
7. Operation of Fish Rearing Facilities;
8. Scientific Surveys and Studies;
9. Limited Types of Recreation; and
10. Operating Conservation Program Activities.
 - (a) road storm proofing.

EXHIBIT B

Specific Covered Activities Covered Under the Streambed Alteration Agreement

With the exception of (1) temporary diversion channel construction, (2) stream channel relocation, reconstruction, bank protection, and (3) construction of water holes, diversions, dams, the following specific Covered Activities are subject to this Streambed Alteration Agreement:

1. Permanent Road Crossings (Class I and Restorable Fish-bearing Streams);
2. Permanent Culvert Road Crossings (Class II and III Streams);
3. Temporary Road Crossings (Class I and Restorable Fish-bearing Streams);
4. Other Temporary Crossings (Non-Class I);
5. Fords;
6. Near-stream Gravel Mining; and
7. Operating Conservation Program Activities
 - (a) road storm proofing.

EXHIBIT C

Measures Necessary for Protection of Fish and Wildlife Resources from Impacts of Specific Covered Activities Subject to This Streambed Alteration Agreement

I. PERMANENT ROAD CROSSINGS (Class I Streams)

1. Any structure or culvert placed within a Class I stream shall be designed, constructed and maintained such that it does not constitute a barrier to upstream or downstream movement of fish. An acceptable alignment or construction would include but is not limited to the supply of water at a depth, and velocity to facilitate upstream and downstream fish movement.
2. Bridges are the preferred crossing type for Class I Streams. Where bridges are used, PALCO shall construct clear span bridges without abutment fills below the ordinary high water mark across such streams. Bridges shall also be set at a high enough level to pass the entire 100-year peak flows and floating debris to the extent feasible. Log stringer bridges may be used, but all surfacing material shall be clean rock. Structural arch culverts may also be used under these same conditions.
3. Permanent culverts on fish-bearing streams shall be sized to accommodate 100-year peak flows and to avoid peak flows crossing over the crossings. Size shall be calculated by using at least two methods identified in Weaver and Hagans (1994). Culverts shall be aligned with the stream channel and installed below stream grade. Culverts shall extend beyond road fill.
4. Crossings (bridges or culverts) shall be installed, replaced or repaired when fish are not present, but not sooner than June 15 and not after October 15.
5. All bare mineral soil exposed in conjunction with crossing construction, maintenance, repair or removal shall be treated for erosion immediately upon completion of work on the crossing. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials.
6. Culvert inlets and outlets shall be protected from erosion as appropriate through armoring constructed of graded and backed rock riprap or other non-erodible material (e.g., concrete head wall). Where used, riprap shall be constructed to remain in place during 100-year peak flows to the extent feasible, extend at least as high as the top of the pipe and on inlets, and shall extend sufficient distance upstream as "wing walls" to prevent bank erosion. Where armoring is used, outfall of culverts shall be riprapped in a U-shaped channel, with clean material of sufficient size to remain in place during 100-year peak flow events to the extent feasible.
7. No structure is to be located on the curve of a stream if a feasible alternative is available.
8. To facilitate adult salmonid migration, the following measures shall be implemented when designing and constructing new or replacement culverts on Class I fish-bearing streams. CDFG recognizes that certain of these measures conflict with other measures in significant ways. For example, the use of culverts large enough to pass 100-year flows frequently may be inconsistent with maintaining a minimum water depth of 1 foot at median flow. CDFG also recognizes that climatic conditions (e.g., drought) and water course size may affect PALCO's ability to comply with certain measures. Regardless, PALCO shall endeavor to achieve compliance with the measures to have

the least impact on fish and wildlife resources. These measures shall be reviewed at least every five years by the CDFG and modified as necessary to reflect the best available information on fish passage. These measures pertain primarily to streams which support salmonids, and are intended for adult salmonid migration only. NMFS is currently developing culvert guidelines that will address the needs of both adult and juvenile fish passage. These guidelines may be adopted to supplement or supercede, as applicable, those presented below.

In addition, streams on PALCO's ownership may support populations of non-salmonid fishes, amphibians and other aquatic organisms, some of which could become listed during the life of the Habitat Conservation Plan. It is, therefore, imperative that PALCO and its agent or contractor responsible for construction, reconstruction and maintenance of crossings on such streams shall be aware of those species present in the effected streams and shall apply culvert specifications commensurate with their biological needs, as appropriate. Such information can be obtained from the CDFG, NMFS and USFWS.

- a. Fish passage shall be provided during at least 90% of the adult migration period to the extent feasible. The migration period for salmon and steelhead is assumed to be a six month period, generally October through March. The "flow duration method" may be used to approximate the 90% peak passage flow for a six month period, i.e., the 95 percentile for on an annual basis.
 - b. At high flows, water velocity and distance between resting pools limit upstream fish passage. The "Alaskan Curve" (attached) , or alternative methods acceptable to the Wildlife Agencies shall be used to determine the maximum acceptable velocity through the culvert at the 95 percentile flow.
 - c. At low flows, water depth in a culvert limits fish passage. A minimum depth of one foot shall be required at the median flow to the extent feasible. Median flow shall be established at the 50 percentile flow.
 - d. Culverts shall be installed at 0.5% slope, or less to the extent feasible.
 - e. Culverts shall be installed with the bottom 1/4 diameter or one foot, whichever is greater, below streambed level. Multiple barrel crossings shall not be used.
 - f. Baffles and weirs shall not be used, except as approved by CDFG.
 - g. Designs which result in the following shall not be permitted:
 - (i) Velocity of 12 feet per second at any point, except during floods;
 - (ii) Sudden changes in velocity causing a barrier to fish passage;
 - (iii) Turbulent flow causing a barrier to fish passage;
 - (iv) Changes in culvert alignment;
 - (v) Debris catchers within culvert; and
 - (vi) Drop inlet culverts.
9. PALCO shall inspect culverts annually for risk of failure through corrosion, rust or abrasion. Culverts with perforations or separation shall be repaired or replaced between June 15 and October 15.

10. Permanent culverts and bridges shall be maintained and kept open year round. PALCO is responsible for such maintenance as long as the culvert remains in the stream.
11. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations as described. The channel and bank configuration of the disturbed areas at any crossing shall be restored to as near its original condition as possible. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
12. If operations require moving of equipment across a flowing stream, such operations shall be conducted without causing a prolonged visible increase in stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-lined crossing as described. Equipment may be operated in the stream channel of flowing streams only as may be necessary to construct crossings, barriers, fills, or channel changes or during the use of fords. During construction of crossings, if prolonged turbidity may be transported downstream, the flow shall be diverted around the work area by a temporary pipe, diversion channel or pumping, or sediment check dams will be installed downstream to control the turbidity.
13. Structures and associated materials that are not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
14. If the stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state. The shape and gradient of the streambed shall be as nearly as possible the same gradient as that which existed prior to the disturbance.
15. When any dam or artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fish life below the work area. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage. Any temporary dam or artificial obstruction shall only be built from materials such as clean gravel or other means that will cause little or no siltation.

II. PERMANENT CULVERT ROAD CROSSINGS (Class II and III Streams)

1. Permanent culverts shall have pipes sized to provide 50 year peak flow passage, calculated by using at least two of the methods approved by the Forest Practice Rules. Pipes shall be aligned with stream channel, and installed at or below stream channel grade. Pipes shall be long enough so that roadfill does not extend or slough past the pipe ends.
2. The inlet of the culvert shall be protected appropriate through armoring constructed of rock riprap, gabions, concrete, or other non-erodible material. Where used, riprap shall be constructed to remain in place during 50-year peak stream flows to the extent feasible, and extend at least as high as the top of the pipe and extended a short distance upstream as "wing walls" to prevent erosion of the banks. Outlet of culverts shall be riprapped if roadfill sloughing into channel can occur. Where armoring is used, outfall riprapping shall be in a U-shaped channel, with clean material of sufficient size to remain in place during high flow velocities to the extent feasible.
3. Pipes shall be placed at stream gradient, or have downspouts, or have energy dissipaters at outfall to prevent erosion. If half-round downspouts (flume) are used, they

shall be of sufficient size to accommodate entire anticipated flow from the attached culvert. Downspouts shall be securely attached to the culvert, and stabilized along the fill slope to operate through the life of the crossing.

4. On culverted streams which carry a debris load that could endanger the crossing, a trash/debris catchment structure shall be constructed above the crossing. The design of the trashrack shall be of sufficient strength to withstand high flows, and shall be cleaned or maintained on an annual basis.
5. Multiple-pipe culvert crossings shall not be used.
6. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations as described. The channel and bank configuration of the disturbed areas at any crossing shall be restored to as near its original condition as possible. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
7. If operations require moving of equipment across a flowing stream, such operations shall be conducted without causing a prolonged visible increase in stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-lined crossing as described. Equipment may be operated in the stream channel of flowing streams only as may be necessary to construct crossings, barriers, fills, or channel changes or during the use of fords. During construction of crossings, if prolonged turbidity may be transported downstream, the flow shall be diverted around the work area by a temporary pipe, diversion channel or pumping, or sediment check dams will be installed downstream to control the turbidity.
8. Structures and associated materials that are not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
9. If the stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state. The shape and gradient of the streambed shall be as nearly as possible the same gradient as that which existed prior to the disturbance.
10. When any dam or artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fish life below the work area. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage. Any temporary dam or artificial obstruction shall only be built from materials such as clean gravel or other means that will cause little or no siltation.

III. TEMPORARY ROAD CROSSINGS (Class I Streams)

1. Temporary crossings on Class I streams include bridges, fords and culverts. Fill materials shall include screened washed river run gravel or logs (Humboldt) or both. Materials used as fill materials shall cause no siltation.
2. Temporary crossings (bridges, culverts and fordings) shall be installed, replaced or repaired when fish are not present, but not sooner than June 15 and not after October 15. Bridges and culverts and all top fill materials used for road surfacing at temporary crossings shall be removed and stream channels and banks returned to pre-project condition by October 15. Habitat structures and elements (including pools, riffles, large woody debris and boulders) removed for crossing installation shall be restored to

their preconstruction configurations.

3. All bare mineral soil exposed in conjunction with crossing construction, maintenance, repair or removal shall be treated to prevent erosion immediately upon completion of work on the crossing. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
4. Any structure or culvert placed within a Class I stream shall be designed, constructed and maintained such that it does not constitute a barrier to upstream or downstream movement of fish. An acceptable design or construction shall include but shall not be limited to providing the supply of water to allow upstream and downstream fish migration.
5. At low flows, water depth in a culvert limits fish passage. A minimum depth of one foot shall be required at the median flow to the extent feasible. Median flow shall be established at the 50 percentile flow.
6. Culverts shall be installed at 0.5% slope, or less to the extent feasible.
7. Bottoms of temporary culverts shall be placed at or below stream channel grade.
8. Multiple-barrel crossings shall not be used.
9. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations as described. The channel and bank configuration of the disturbed areas at any crossing shall be restored to as near its original condition as possible. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
10. If operations require moving of equipment across a flowing stream, such operations shall be conducted without causing a prolonged visible increase in stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-lined crossing as described. Equipment may be operated in the stream channel of flowing streams only as may be necessary to construct crossings, barriers, fills, or channel changes or during the use of fords. During construction of crossings, if prolonged turbidity may be transported downstream, the flow shall be diverted around the work area by a temporary pipe, diversion channel or pumping, or sediment check dams will be installed downstream to control the turbidity.
11. Structures and associated materials that are not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
12. If the stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state. The shape and gradient of the streambed shall be as nearly as possible the same gradient as that which existed prior to the disturbance.
13. When any dam or artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fish life below the work area. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage. Any temporary dam or artificial obstruction shall only be built from materials such as clean gravel or other means that will cause little or no siltation.

IV. OTHER TEMPORARY CROSSINGS (Non-Class I Water Courses)

1. Temporary crossings include bridges, fords, culverts with local fill, culverts with imported rock fill, and crossings with log fill (Humboldt), and combinations of all three types of crossings. Temporary crossings and all fill materials shall be removed by end of work period of each year, or when threatened by rising flows. Temporary crossings constructed prior to June 1 shall be sized as following the specifications permanent culvert road crossings.
2. When fill material used in the crossing is removed, channel shape and gradient shall be returned to preproject condition to the extent feasible. Habitat structures removed during temporary crossing installation shall be restored or replaced in equal quantities after removing the crossing.
3. Culverts with rock or log-fill shall be used when it may be difficult to remove all fill material from the channel, such as deep, incised, steep, or rough channel bottoms, or when flows would transport sediment downstream. Pipe shall be sufficient size to accommodate the expected flow during the use period. Rock fill shall be free of fine sediments. Log fill crossing (Humboldt) shall be constructed by laying choker cables or similar cables across stream channel, then placing pipe and/or sound logs in the channel bottom. The logs shall then be covered with filter fabric and straw mats or rock, with a local topfill for road surfacing. At the end of the work period, the topfill shall be scraped off and the logs shall be removed as a unit by pulling the chokers.
4. Temporary bridges can be flatcars, log stringers, plate, or other designs, which shall be removed by the end of the work period in each year. Fills for abutments below high water mark shall be log and/or rock. Log stringer bridges shall be surfaced with filter fabric or straw, under a road surface layer of rock, to prevent surface material from entering channel during use.
5. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations as described. The channel and bank configuration of the disturbed areas at any crossing shall be restored to as near its original condition as possible. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
6. If operations require moving of equipment across a flowing stream, such operations shall be conducted without causing a prolonged visible increase in stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-lined crossing as described. Equipment may be operated in the stream channel of flowing streams only as may be necessary to construct crossings, barriers, fills, or channel changes or during the use of fords. During construction of crossings, if prolonged turbidity may be transported downstream, the flow shall be diverted around the work area by a temporary pipe, diversion channel or pumping, or sediment check dams will be installed downstream to control the turbidity.
7. Structures and associated materials that are not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
8. If the stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state. The shape and gradient of the streambed shall be as nearly as possible the same gradient as that which existed prior to the disturbance.

9. When any dam or artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fish life below the work area. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage. Any temporary dam or artificial obstruction shall only be built from materials such as clean gravel or other means that will cause little or no siltation.

V. FORDS

1. Fords shall be constructed using rock that shall withstand erosion by expected flow velocities, placed in a U-shaped channel to create a driveable channel that still contains the full flow. If use of the ford by heavy traffic would result in significant downstream transport of sediment, a temporary crossing shall be installed.
2. Concrete fords are not to be constructed.
3. No native soil may be pushed into the stream high flow channel, and if stream habitat structures are removed, they shall be restored or replaced in equal quantities after removing the crossing.
4. The disturbance or removal of vegetation shall not exceed the minimum necessary to complete the operations as described. The channel and bank configurations of the disturbed areas of any crossing shall be restored to as near its original condition as possible. One hundred percent of bare mineral soil shall be treated with straw mulch or other erosion control materials immediately upon completion of work.
5. If operations require moving of equipment across a flowing stream, such operations shall be conducted without causing a prolonged visible increase in stream turbidity. For repeated crossings, the operator shall install a bridge, culvert, or rock-lined crossing as described. Equipment may be operated in the stream channel of flowing streams only as may be necessary to construct crossings, barriers, fills, or channel changes or during the use of fords. During construction of crossings, if prolonged turbidity may be transported downstream, the flow shall be diverted around the work area by a temporary pipe, diversion channel or pumping, or sediment check dams will be installed downstream to control the turbidity.
6. Structures and associated materials that are not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.
7. If the stream channel has been altered during the operations, its low flow channel shall be returned as nearly as possible to its natural state. The shape and gradient of the streambed shall be as nearly as possible the same gradient as that which existed prior to the disturbance.
8. When any dam or artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain fish life below the work area. An adequate fish passage facility must be incorporated into any barrier that obstructs fish passage. Any temporary dam or artificial obstruction shall only be built from materials such as clean gravel or other means that will cause little or no siltation.

VI. Near-stream Gravel Mining

All gravel mining operations shall be conducted in accordance with the following:

- (a) Applicable conservation and mitigation measures required pursuant to the HCP, as specified in Volume I, Part A, and Volume IV, Part D of the HCP;
- (b) The provisions of any applicable existing Section 7 Biological Opinion issued by NMFS; and
- (c) The recommendations of the County of Humboldt Extraction Review Team (CHERT).